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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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23413	7590	11/09/2006	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			ANGEBRANDT, MARTIN J	
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			1756	

DATE MAILED: 11/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,609

Applicant(s)

DRIS ET AL.

Examiner

Martin J. Angebrannt

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14,16-33,35-42,44 and 45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14,16-33,35-42 and 44-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>9/7/06</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. The response of the applicant has been read and given careful consideration. Responses to the arguments of the applicant are presented after the first rejection to which they are directed. The amendment to the specification are approved and do not introduce any new matter. Rejection of the previous office action, not repeated below are withdrawn based upon the amendments and arguments of the applicant.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barzynski et al. '756, in view of Daecher et al. '829.

Barzynski et al. '756 in examples 5 and 6, which use a PPE and methylstyrene resins to form a substrate having grooves 70 nm deep and 0.6 microns wide and separated by 106 microns.

Daecher et al. '829 teaches the use of filtration with a 5 micron metal fiber melt filter (pleated candle type) (example 5, 17/44-46). The formation of optical recording media substrates is disclosed (example 6). The use of melt filtration to remove gels, dirt and foreign particles from the melt. (11/34-46).

It would have been obvious to one skilled in the art to modify the process set forth by Barzynski et al. '756 by using melt filtering with a 5 micron filter to remove particulates as described by Daecher et al. '829 based upon this being described as well known and

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conventional for arts involving processing of thermoplastics and compatible with forming optical disc substrates using injection molding.

The applicant argues that the blend being free of particulates is not anticipated by the references applied. The applicant is correct in that melt filtering, which would be the last step where particulates could be removed, is not taught by the primary reference. The application of Daecher et al. '829 addresses this. The applicant argues that the lack of particulates is not taught in the combination of references. The examiner disagrees noting that the use of melt filtering is specifically discussed as the means for removing such particulates in the specification (see prepub at [0068-0074].) with the pore size of the filter being disclosed as most preferably 5-15 microns (micrometers) and is specifically known to be useful with optical recording disks. The use of a filter with a 5 micron pore size is within the preferred range disclosed in the specification and will remove the 10 micron particles described in the prepub of the instant specification at [0074]. Furthermore the importance of the filtering is much reduced if the laser does not pass through the substrate, so any showing by the applicant must

4. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142, in view of Daecher et al. '829.

Niwano et al. In example 1 teaches a substrate comprising a 50:50 ratio of polydimethyl-1,4-phenylene) ether and polystyrene (see [0033-0034] in the prepub of the instant application) which is injection molded at a temperature of 320 degrees to form a substrate having a diameter of 130 nm, a thickness of 1.2 mm and grooves with a pitch of 1.6 microns, which is then coated with a SiN layer an TbFeCo magnetooptic recording layer and a second SiN layer. The resulting media have a low birefringence, high heat resistance, good strength, dimensional stability and

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adhesion to the layers applied to it. (3/1-12). The aromatic vinyl monomer may be various styrenes polymers and copolymers with other free radically polymerizable monomers (3/22-41).

The examiner notes that the lands and grooves are wide enough that lasers in the 420 nm ranges as well as longer wavelength lasers will have sufficient resolution to record in either on the lands or thin the grooves. Further, the medium is able to be accessed from the side opposite the substrate and therefore high NA lens systems including those in excess of 0.8 would be able to be used with the medium. TbFeCo is a rare earth transition metal alloy [0109].

It would have been obvious to one skilled in the art to modify the process set forth by over Niwano et al. '142 by using melt filtering to remove particulates having sizes of more than 5 microns as described by Daecher et al. '829 based upon this being described as well known and conventional for arts involving processing of thermoplastics and compatible with forming optical disc substrates using injection molding.

The response above is relied upon here, noting that the issue of filtering is addressed in the rejection.

5. Claims 1-3, 5-9,13,14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Nishikawa et al. WO 02/086882 (US 2004/00760083 is English equivalent and used in lieu of a translation).

Nishikawa et al. WO 02/086882 teaches a polycarbonate substrate coated with SiN, a GdFeCoAl layer, a TbFeAl layer, a recording layer, a SiN layer, and an Al layer. (23/1-9) ([0172] is US). The substrate has a land width of 140 nm, a groove width of 400 nm, a track pitch is 0.54 microns and a groove depth of 55 nm. (22/9-12) [0167]. The narrowing of track

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pitch allow higher density of recording and therefore more information to be recorded on a single disk (7/22-8/2) [0061]. The use of topside recording is shown with respect to figure 11.

It would have been obvious to one skilled in the art to modify the cited example of Niwano et al. '142 by using other grooves with smaller pitches such as those taught by Nishikawa et al. WO 02/086882 with a reasonable expectation of forming a useful optical recording medium with ability to store information at a higher density and/or it would have been obvious to modify the cited example of Nishikawa et al. WO 02/086882, by using the substrate material of Niwano et al. '142 with a reasonable expectation of forming a useful optical recording medium where the substrate demonstrates low birefringence, high heat resistance, good strength, dimensional stability and adhesion to the layers applied to it.

The applicant's arguments neglect that fact that both references are from the optical recording art and use magneto-optical recording layers and so there is a reasonable expectation of success in forming useful optical recording media on this basis. The applicant's arguments also neglect the desirable properties ascribed to the substrates of Niwano et al. '142 and the obvious advantage in narrowing the pitch of the recording tracks to allow recording at higher densities. These advantages are well articulated in the references and constitute motivation to combine these references in the manner described in the rejection.

The applicant argues that it is not clear that the exacting tolerances of the pits could be made in the substrate materials of Nishikawa et al. WO 02/086882 and that there is no motivation to form the higher density media. This is without merit as the use of molding of the resin is taught as is the benefit of a higher density of information. The applicant is invited to submit comparative data evidencing a benefit commensurate in scope with the coverage sought.

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This might arguably be a comparison against the media of Niwano et al. '142 or Nishikawa et al. WO 02/086882.

6. Claims 1-3,5-14,16-18 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Nishikawa et al. WO 02/086882 (US 2004/00760083 is English equivalent and used in lieu of a translation), further in view of Daecher et al. '829

In addition to the basis set forth above, it would have been obvious to one skilled in the art to modify the process rendered obvious by the combination of Niwano et al. '142 and Nishikawa et al. WO 02/086882 by using melt filtering to remove particulates having sizes of more than 5 microns as described by Daecher et al. '829 based upon this being described as well known and conventional for arts involving processing of thermoplastics and compatible with forming optical disc substrates using injection molding.

This rejection addresses any issues concerning the removal of particulates.

7. Claims 1-9,13,14,16-21,27-30 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Ohgo '671.

Ohgo '671 teaches optical recording media using SIL heads with a 413 nm laser and a 0.8 NA, where a optical disk master having a pitch of 0.32 microns is formed and the depth of the grooves is approximately 25, 50 or 75 nm (thickness of the resist in table 1, as these develop the entire thickness of the resist and then use plating to form the master) [0065,0068]. The substrate is molded using the stamper master and a reflective layer, an SiN layer, a NdFeCo layer, and SiN layer applied [0079]. The use of TbFeCo [0081] or phase change recording layer materials is disclosed. [0075]. In another example using a phase change recording layer, the substrate is molded using the stamper master and an Al reflective layer, a second dielectric layer, a

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AgInTeSb recording layer, a first dielectric layer, an adhesive layer and 90 micron polycarbonate sheet are applied [0072]. A similar example using a dye based recording layer is disclosed. [0083-0086].

It would have been obvious to one skilled in the art to modify the cited example of Niwano et al. '142 by using other grooves with smaller pitches such as those taught by Ohgo '671 with a reasonable expectation of forming a useful optical recording medium with ability to store information at a higher density and/or it would have been obvious to modify the cited example of Ohgo '671, by using the substrate material of Niwano et al. '142 with a reasonable expectation of forming a useful optical recording medium where the substrate demonstrates low birefringence, high heat resistance, good strength, dimensional stability and adhesion to the layers applied to it. Further, it would have been obvious the resulting media by using other recording layers, such as phase change recording layers or dye based recording layers, which may include a polycarbonate cover layer atop the upper dielectric based upon the disclosure to do so within Ohgo '671

The applicant's arguments neglect that fact that both references are from the optical recording art and use magneto optical recording layers and so there is a reasonable expectation of success in forming useful optical recording media on this basis. The applicant's arguments also neglect the desirable properties ascribed to the substrates of Niwano et al. '142 and the obvious advantage in narrowing the pitch of the recording tracks to allow recording at higher densities and these are molded articles, not stamped into the hardened substrate, so the arguments concerning the ability to form the fine structure is without merit. These advantages are well articulated in the references and constitute motivation to combine these references in the manner

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described in the rejection. Further the nexus between magneto optical recording media and other optical recording media is established by Ohgo '671. The rejection stands.

8. Claims 1-3,5-14,16-21,27-30,42 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Ohgo '671, further in view of Daecher et al. '829.

In addition to the basis set forth above, it would have been obvious to one skilled in the art to modify the process rendered obvious by the combination of Niwano et al. '142 and Ohgo '671 by using melt filtering to remove particulates having sizes of more than 5 microns as described by Daecher et al. '829 based upon this being described as well known and conventional for arts involving processing of thermoplastics and compatible with forming optical disc substrates using injection molding.

This rejection addresses any issues concerning the removal of particulates.

9. Claims 1-14,16-21,25,27-31,38-41 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Ohgo '671, in view of Saito et al. '261.

Saito et al. '261 teach topside optical recording media which use a cover layer. The cover layer may be made of PANLITE, which is a bisphenol A polycarbonate. [0060]. The use of a protecting layer on the cover layer is disclosed. [0063-0064].

In addition to the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to use PANLITE as the polycarbonate cover layer in media resulting from the combination of Niwano et al. '142 and Ohgo '671 with a reasonable expectation of forming a useful optical recording medium. The examiner holds that the protective layer atop the protective layer taught by Saito et al. '261 meets the limitation of the high modulus layer of claim 31.

In addition to the flaws in the applicant's position pointed out above, the examiner again points to the nexus between magneto optical recording media and other optical recording media is established by Ohgo '671, which evidences a reasonable expectation of utility in substrate materials for optical and magneto-optical recording media and in discussing the use of topside recording ties these references together. The rejection stands for the reasons above as the first two references render the substrate obvious.

10. Claims 1-14,16-21,25,27-31,33,35--45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Ohgo '671, in view of Saito et al. '261, further in view of Daecher et al. '829.

In addition to the basis set forth above, it would have been obvious to one skilled in the art to modify the process rendered obvious by the combination of Niwano et al. '142, Ohgo '671 and Saito et al. '261 by using melt filtering to remove particulates having sizes of more than 5 microns as described by Daecher et al. '829 based upon this being described as well known and conventional for arts involving processing of thermoplastics and compatible with forming optical disc substrates using injection molding.

This rejection addresses any issues concerning the removal of particulates.

11. Claims 1-14,16-31, 33,35-42, and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Ohgo '671, in view of Saito et al. '261 and Daecher et al. '829, further in view of(Ueda et al. JP 2000-315891 or Ito et al. EP 1178068) combined with Ogawa et al. '313.

Ueda et al. JP 2000-315891 (machine translation attached) teaches polystyrene:polycarbonate mixtures useful for optical recording media substrates. These include

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the use of bisphenol A and bis(4-hydroxyphenyl)methane and hydroxyaryl cycloalkane monomers in these mixtures. (abstract, [0010])

Ogawa et al. '313 teach polycarbonate resins which are useful in optical applications, examples include bisphenol A, bis(4-hydroxyl) menthane and mixtures of these. [0031]. The use of these as optical disk substrates and as optical sheets for near field recording media is also disclosed. [0002].

Ito et al. EP 1178068 teaches the use of various polycarbonates for use in laser discs and the like [0002]. The use of 2,2-bis(4-hydroxyphenyl)propane (bisphenol A, 4/25+) and bis 1,8-(4-hydroxyphenyl)menthane (sic bis 1,3-(4-hydroxyphenyl)menthane as there are not 8 positions on the cyclohexyl ring) as starting materials.

In addition the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to modify the combination of Niwano et al. '142, Ohgo '671, Saito et al. '261 and Daecher et al. '829 to use other polycarbonate compositions known to be useful in optical recording media, particularly the polycarbonate-polystyrene copolymers disclosed by Ueda et al. JP 2000-315891 or the polycarbonate resins using 2,2-bis(4-hydroxyphenyl)propane (bisphenol A, 4/25+) or bis 1,3-(4-hydroxyphenyl)menthane taught by Ito et al. EP 1178068 based upon the use of polycarbonate resins either in the substrates or the protective layers as taught by Ogawa et al. '313 which are known to be useful in substrates and/or cover layers in place of PANLITE or the polycarbonate sheet taught by Ohgo '671 with a reasonable expectation of forming a useful optical recording media having a cover layer with good transparency and low birefringence. Further it would have been obvious to use a combination of the precursors 2,2-bis(4-hydroxyphenyl)propane (bisphenol A, 4/25+) and bis 1,3-

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(4-hydroxyphenyl)menthane taught by Ito et al. EP 1178068 based upon the disclosure of the use of copolymers of hydroxyphenyl by Ogawa et al. '313.

The applicant's response fails to appreciate that the substrate materials are taught in Niwano et al. '142 and that Saito et al. '261 establish the use of polycarbonate sheet as a protective layer and Ueda et al. JP 2000-315891, Ito et al. EP 1178068 and Ogawa et al. '313 are cited to establish useful chemical compositions for these polycarbonate sheet materials.

12. Claims 1-14,16-33,35-42 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niwano et al. '142 and Ohgo '671, in view of Saito et al. '261, Daecher et al. '829, (Ueda et al. JP 2000-315891 or Ito et al. EP 1178068) and Ogawa et al. '313, further in view of Mino et al. '957 or Dris et al. WO 03/021588.

Mino et al. '957 teach silicon hard coat agents provided on protective layers [0060]. The hard coat agents are disclosed as providing wear resistance [0049].

Dris et al. WO 03/021588 teach the provision of high modulus layers to optical recording media, including silicon hardcoats and copolycarbonate esters (6/3-27 and claim 6). These are disclosed as being able to be placed atop the thin film layer and data layers as shown in figure 2 and confer additional stability (3/1-12).

In addition the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to modify the combination of Niwano et al. '142, Ohgo '671, Saito et al. '261, Daecher et al. '829, (Ueda et al. JP 2000-315891 or Ito et al. EP 1178068) and Ogawa et al. '313 as discussed above by adding the silicon hardcoats or copolycarbonate resin overcoats taught by Mino et al. '957 or Dris et al. WO 03/021588 as the overcoating of the protective layer taught by Saito et al. '261 with a reasonable expectation of gaining the increased hardness and/or

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stability ascribed to the addition of these layers by Mino et al. '957, Dris et al. '405 or Dris et al. WO 03/021588.

The applicant's response fails to appreciate that the substrate materials are taught in Niwano et al. '142 and that Saito et al. '261 establish the use of polycarbonate sheet as a protective layer, Ueda et al. JP 2000-315891 and Ogawa et al. '313 are cited to establish useful chemical compositions for these polycarbonate sheet materials and of Mino et al. '957 or Dris et al. WO 03/021588 are cited to establish the use of silicon hardcoats.

13. Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Feist et al. '455, in view of Daecher et al. '829.

Examples 1-8 teach optical recording media which are grooved with grooves 50 nm deep and a pitch of 0.8 microns. [0048-0063]. The coating of various data storage layers on the substrate is disclosed. [0039]. The disclosure of first surface recording media where the substrate is coated with a reflective layer, a dielectric layer, a recording layer, a dielectric layer and a protective layer is disclosed. [0038]. The protective layer may be materials including polycarbonates [0040]. The use of melt filtration is disclosed as desirable for removing contaminants and/or decomposition products.

It would have been obvious to one skilled in the art to modify the examples cited by providing data layers thereon and by using melt filtering to remove particulates having sizes of more than 5 microns as described by Daecher et al. '829 based upon this being described as well known and conventional for arts involving processing of thermoplastics and compatible with forming optical disc substrates using injection molding. Further, the examiner holds that it would have been obvious to form first surface recording media, such as those disclosed at [0038] with a

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reasonable expectation of forming a useful optical recording medium which realizes the benefits ascribed to the substrate using melt filtration to remove the particulates prior to the molding.

The use of melt filtration and its affects are disclosed in the reference. The addition of Daecher et al. '829 addresses the issues raised by the applicant.

14. Claims 1-14,16-21,27-30, 42 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feist et al. '455, Daecher et al. '829 and Ohgo '671.

It would have been obvious to one skilled in the art to modify the embodiments rendered obvious by the first example of Feist et al. '455 and the teachings of Daecher et al. '829 by using other grooves with smaller pitches such as those taught by Ohgo '671 with a reasonable expectation of forming a useful optical recording medium with ability to store information at a higher density and/or it would have been obvious to modify the cited example of Ohgo '671, by using the substrate material of Feist et al. '455 with a reasonable expectation of forming a useful optical recording medium where the substrate demonstrates low birefringence, high heat resistance, good strength, dimensional stability and adhesion to the layers applied to it. Further, it would have been obvious the resulting media by using other recording layers, such as phase change recording layers or dye based recording layers, which may include a polycarbonate cover layer atop the upper dielectric based upon the disclosure to do so within Ohgo '671.

The rejection stands for the reasons above as no other arguments were directed at this rejection.

15. Claims 1-14,16-21,25,27-31,33,35-42 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feist et al. '455, Daecher et al. '829 and Ohgo '671, in view of Saito et al. '261.

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In addition to the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to use PANLITE as the polycarbonate cover layer in media resulting from the combination of Feist et al. '455, Daecher et al. '829 and Ohgo '671 with a reasonable expectation of forming a useful optical recording medium. The examiner holds that the protective layer atop the protective layer taught by Saito et al. '261 meets the limitation of the high modulus layer of claim 31.

The rejection stands for the reasons above as no other arguments were directed at this rejection.

16. Claims 1-14,16-21,27-30,42 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hay et al. '438, Daecher et al. '829 and Ohgo '671.

Hay et al. '438 teach optical recording media substrates in examples 3 and data layers [0078-0081].

It would have been obvious to one skilled in the art to modify the cited example of Hay et al. '438 by using grooved substrates, such as those taught by Ohgo '671 with a reasonable expectation of forming a useful optical recording medium with ability to store information at a higher density and have a laser track accurately on the medium and/or it would have been obvious to modify the cited example of Ohgo '671, by using the substrate material of Hay et al. '438 with a reasonable expectation of forming a useful optical recording medium where the substrate demonstrates low birefringence, high heat resistance, good strength, dimensional stability and adhesion to the layers applied to it. Further, it would have been obvious the resulting media by using other recording layers, such as phase change recording layers or dye based recording layers, which may include a polycarbonate cover layer atop the upper dielectric

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based upon the disclosure to do so within Ohgo '671 and to using melt filtering to remove particulates having sizes of more than 5 microns as described by Daecher et al. '829 based upon this being described as well known and conventional for arts involving processing of thermoplastics and compatible with forming optical disc substrates using injection molding.

This rejection addresses any issues concerning the removal of particulates.

17. Claims 1-14, 16-33, 35-42 and 44-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over either (Feist et al. '455 or Hay et al. '438) combined with Daecher et al. '829 and Ohgo '671, further in view of (Ueda et al. JP 2000-315891 or Ito et al. EP 1178068) combined with Ogawa et al. '313.

In addition the basis provided above, the examiner holds that it would have been obvious to one skilled in the art to modify the combination of either (Feist et al. '455 or Hay et al. '438) combined with Daecher et al. '829 and Ohgo '671 to use other polycarbonate compositions known to be useful in optical recording media, particularly the polycarbonate-polystyrene copolymers disclosed by Ueda et al. JP 2000-315891 or the polycarbonate resins using 2,2-bis(4-hydroxyphenyl)propane (bisphenol A, 4/25+) or bis 1,3-(4-hydroxyphenyl)menthane taught by Ito et al. EP 1178068 based upon the use of polycarbonate resins either in the substrates or the protective layers as taught by Ogawa et al. '313 which are known to be useful in substrates and/or cover layers in place of PANLITE or the polycarbonate sheet taught by Ohgo '671 with a reasonable expectation of forming a useful optical recording media having a cover layer with good transparency and low birefringence. Further it would have been obvious to use a combination of the precursors 2,2-bis(4-hydroxyphenyl)propane (bisphenol A, 4/25+) and bis

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1,3-(4-hydroxyphenyl)menthane taught by Ito et al. EP 1178068 based upon the disclosure of the use of copolymers of hydroxyphenyl by Ogawa et al. '313.

18. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

19. Claim 1-14,16-21,27-30,42 and 44-45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-32 of copending Application No. 10/648540 (US 2005/0046056) in view of Feist et al. '455, Daecher et al. '829 and Ohgo '671.

The claims are directed to both the molding process used to form an optical recording medium substrate and the resulting data storage disks, but are silent on the grooves conventionally formed in these substrate and the data layers. The examiner holds that it would have been obvious to one skilled in the art to modify the claimed invention by forming grooves and data layers such as those disclosed by Feist et al. '455, Daecher et al. '829 and Ohgo '671 to

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form the claimed optical recording media, noting the similarity, particularly in the disclosure of Feist et al. and Daecher et al. '829.

This is a provisional obviousness-type double patenting rejection.

An indication of allowability is present in the filed of this co-pending application and therefore the provisional nature of this rejection may be withdrawn without prejudice to finality.

The examiner notes that Feist et al. '455 and Daecher et al. '829 teach melt filtration and its affects in terms of particulate removal. The applicant argues that no claims are allowed and asks that these rejections be withdrawn. When the claims become allowable this might occur, but the examiner retains these until either a convincing arguments is made regarding the merits, the copending case is abandoned, the claims of the two applications diverge significantly.

20. Claim 1-14,16-21,27-30,42 and 44-45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-3,7-16,18-24 & 26-106 of copending Application No. 10/648640 (US 2005/0049362) in view of Feist et al. '455, Daecher et al. '829 and Ohgo '671.

The claims are directed to both the process used to form the resins and optical recording medium substrate and data storage disks including them, but are silent on the grooves conventionally formed in these substrate and the data layers. The examiner holds that it would have been obvious to one skilled in the art to modify the claimed invention by forming grooves and data layers such as those disclosed by Feist et al. '455, Daecher et al. '829 and Ohgo '671 to form the claimed optical recording media, noting the similarity, particularly in the disclosure of Feist et al. and

This is a provisional obviousness-type double patenting rejection.

An indication of allowability is present in the filed of this co-pending application and therefore the provisional nature of this rejection may be withdrawn without prejudice to finality.

The examiner notes that Feist et al. '455 and Daecher et al. '829 teach melt filtration and its affects in terms of particulate removal. The rejection stands.

The applicant is directed to claim 97 of the co-pending application which recites a styrene monomer. Further, the addition of Daecher et al. '829 addresses the size of the particulates removed by melt filtration. As the process is molding of a resins, the issue of the ability to hold the fine detail is without merit and the melt can flow into all the voids in the mold, where a solid might not. Also the optical recording medium substrate is claimed.

21. Claim 1-14,16-21,27-30,42 and 44-45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-49 of copending Application No. 10/648647 (US 2005/0049333) in view of Feist et al. '455 and Ohgo '671.

The claims are directed to both the process used to form the resins and an optical recording medium substrate including them, but are silent on the grooves conventionally formed in these substrate and the data layers. The examiner holds that it would have been obvious to one skilled in the art to modify the claimed invention by forming grooves and data layers such as those disclosed by Feist et al. '455 and Ohgo '671 to form the claimed optical recording media, noting the similarity, particularly in the disclosure of Feist et al.

This is a provisional obviousness-type double patenting rejection.

The examiner notes that Feist et al. '455 teaches melt filtration and its affects in terms of particulate removal. The rejection stands.

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22. Claim 1-14,16-21,27-30,42 and 44-45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-29 of copending Application No. 10/648604 (US 2005/0046070), in view of Feist et al. '455, Daecher et al. '829 and Ohgo '671 to form the claimed optical recording media, noting the similarity, particularly in the disclosure of Feist et al. and Daecher et al. '829.

This is a provisional obviousness-type double patenting rejection.

An indication of allowability is present in the filed of this co-pending application and therefore the provisional nature of this rejection may be withdrawn without prejudice to finality.

The examiner notes that Feist et al. '455 and Daecher et al. '829 teach melt filtration and its affects in terms of particulate removal. The applicant argues that no claims are allowed and asks that these rejections be withdrawn. When the claims become allowable this might occur, but the examiner retains these until either a convincing arguments is made regarding the merits, the copending case is abandoned, the claims of the two applications diverge significantly.

23. Claim 1-14,16-21,27-30,42 and 44-45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-49 of copending Application No. 11/151494 (US 2005/0233151) in view of Feist et al. '455, Daecher et al. '829 and Ohgo '671 to form the claimed optical recording media, noting the similarity, particularly in the disclosure of Feist et al. and Daecher et al. '829.

This is a provisional obviousness-type double patenting rejection.

An indication of allowability is present in the filed of this co-pending application and therefore the provisional nature of this rejection may be withdrawn without prejudice to finality.

The examiner notes that Feist et al. '455 and Daecher et al. '829 teach melt filtration and its affects in terms of particulate removal. The applicant argues that no claims are allowed and asks that these rejections be withdrawn. When the claims become allowable this might occur, but the examiner retains these until either a convincing arguments is made regarding the merits, the copending case is abandoned, the claims of the two applications diverge significantly.

24. Claim 1-14,16-21,27-30,42 and 44-45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-81 of copending Application No. 11/101883 (US 2005/0180284) in view of Feist et al. '455, Daecher et al. '829 and Ohgo '671 to form the claimed optical recording media, noting the similarity, particularly in the disclosure of Feist et al. and Daecher et al. '829.

This is a provisional obviousness-type double patenting rejection.

An indication of allowability is present in the filed of this co-pending application and therefore the provisional nature of this rejection may be withdrawn without prejudice to finality.

The examiner notes that Feist et al. '455 and Daecher et al. '829 teach melt filtration and its affects in terms of particulate removal. The applicant argues that no claims are allowed and asks that these rejections be withdrawn. When the claims become allowable this might occur, but the examiner retains these until either a convincing arguments is made regarding the merits, the copending case is abandoned, the claims of the two applications diverge significantly.

25. Claim 1-14,16-21,27-30,42 and 44-45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-37 of copending Application No. 10/063004 (US 2002/0094455) in view of Daecher et al. '829 and

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Ohgo '671 to form the claimed optical recording media, noting the similarity, particularly in the disclosure of Daecher et al. '829.

This is a provisional obviousness-type double patenting rejection.

An indication of allowability is present in the filed of this co-pending application and therefore the provisional nature of this rejection may be withdrawn without prejudice to finality.

The examiner notes that Feist et al. '455 and Daecher et al. '829 teach melt filtration and its affects in terms of particulate removal. The applicant argues that no claims are allowed and asks that these rejections be withdrawn. When the claims become allowable this might occur, but the examiner retains these until either a convincing arguments is made regarding the merits, the copending case is abandoned, the claims of the two applications diverge significantly.

26. Claim 1-14,16-21,27-30,42 and 44-45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-15 of copending Application No. 10/922194 (US 2005/0064129) in view of Feist et al. '455, Daecher et al. '829 and Ohgo '671.

The claims are directed to both the process used to form the resins and an optical recording medium substrate including them, but are silent on the grooves conventionally formed in these substrate and the data layers. The examiner holds that it would have been obvious to one skilled in the art to modify the claimed invention by forming grooves and data layers such as those disclosed by Feist et al. '455 and Ohgo '671 and the polystyrene/polyphenylene resins disclosed by Feist et al. to form the claimed optical recording media using melt filtration as taught by Feist et al. '455 and Daecher et al. '829, noting the similarity, particularly in the disclosure of Feist et al.

This is a provisional obviousness-type double patenting rejection.

The examiner notes that Feist et al. '455 and Daecher et al. '829 teach melt filtration and its affects in terms of particulate removal. The rejection stands.

An indication of allowability is present in the filed of this co-pending application and therefore the provisional nature of this rejection may be withdrawn without prejudice to finality.

The applicant is directed to claim 10 of the co-pending application which recites a styrene monomer. Further, the addition of Daecher et al. '829 addresses the size of the particulates removed by melt filtration. As the process is molding of a resins, the issue of the ability to hold the fine detail is without merit and the melt can flow into all the voids in the mold, where a solid might not. Also the optical recording medium substrate is claimed.

27. Claim 1-14,16-21,27-30,42 and 44-45 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/986611 (US 2005/0129953) in view of Feist et al. '455, Daecher et al. '829 and Ohgo '671 to form the claimed optical recording media, noting the similarity, particularly in the disclosure of Feist et al. and Daecher et al. '829.

This is a provisional obviousness-type double patenting rejection.

An indication of allowability is present in the filed of this co-pending application and therefore the provisional nature of this rejection may be withdrawn without prejudice to finality.

The examiner notes that Feist et al. '455 and Daecher et al. '829 teach melt filtration and its affects in terms of particulate removal. The applicant argues that no claims are allowed and asks that these rejections be withdrawn. When the claims become allowable this might occur,

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but the examiner retains these until either a convincing arguments is made regarding the merits, the copending case is abandoned, the claims of the two applications diverge significantly.

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Encyclopedia of Polymer Science and Engineering (1990) index volume, pages 252-253 discusses the use of melt filtration of polymers including the use of filters with openings of 5 microns.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J. Angebranndt whose telephone number is 571-272-1378.

The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Martin J. Angebranndt

Primary Examiner

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